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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,777	09/10/2003	Henry Petteri Haverinen	KOLS.047PA	4888

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Hollingsworth & Funk, LLC
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EXAMINER

AJAYI, JOEL

ART UNIT	PAPER NUMBER
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2617

MAIL DATE	DELIVERY MODE
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09/17/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/659,777

Applicant(s)

HAVERINEN, HENRY PETTERI

Examiner

Joel Ajayi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This action is in response to Applicant's amendment filed on July 02, 2007. **Claims 1-25** are still pending in the present application. **This action is made FINAL.**

Response to Arguments

Applicant's arguments filed July 02, 2007 have been fully considered but they are not persuasive.

The argument features transferring at least a tunneling IP address from a first access device to a second access device.

The examiner respectfully disagrees with the applicant's statement and asserts that Perras discusses that the unique address is reassigned, which is synonymous with transferring, to the mobile station at the terminal node when a connection is formed (paragraph 20, lines 8-13).

The argument features determining a binding in a second access device between a tunneling IP address and an interface of the second access device.

The examiner respectfully disagrees with the applicant's statement and asserts that Perras discusses that after the establishment of the connection the unique address is reassigned to the mobile station at the terminal node, therefore the binding takes place between the unique address and the terminal node (paragraph 20, lines 8-13).

The argument features updating information concerning the new binding between a second device's network interface and the tunneling IP address.

The examiner respectfully disagrees with the applicant's statement and asserts that Perras discusses storing new tunnel parameter via the second service node when the address is reassigned (paragraph 83, line 1 – paragraph 84, line 16).

In view of the above, the rejection using Perras is maintained as repeated below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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Claims 1-4, 8-11, 13, 15-17, 19, 20, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Perras (U.S. Patent Application Number: 2002/0141369)** in view of **Corson et al. (U.S. Patent Application Number: 2002/0080752)**.

Consider **claim 1**; Perras discloses a method for performing handover of a wireless terminal (mobile station) in a telecommunication system, in which a terminal is provided with a connection to a first access device (first service node), from which a tunnel is arranged to a corresponding host for data transmission of the terminal (paragraph 20, lines 1-13), and wherein a tunneling IP address is allocated in the first access device for a tunnel to be formed for the data transmission of the terminal, to which tunneling IP address the tunnel is bound (paragraph 20, lines 1-13), the method comprising: transferring at least the tunneling IP address from the first access device (first service node) to a second access device (second service node) in response to a change in the connection of the terminal to be carried out by the second access device (paragraph 20, lines 1-13) determining a binding in the second access device between the tunneling IP address and a network interface of the second access device (paragraph 20, lines 1-13) and updating the information concerning the new binding between the network interface of the second access device and the tunneling IP address for at least one network node in the system (storing new tunnel parameter via the second service node when the address is reassigned) (paragraph 83, line 1 – paragraph 84, line 16).

Perras fails to disclose detecting a need to change the connection of the terminal.

In the same field of endeavor Corson clearly discloses detecting a need to change the connection of the terminal (paragraph 70, lines 25-32).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Corson into the method of Perras in order to effectively and efficiently maintain communication while a mobile device moves between cells.

Consider **claim 9**; Perras discloses a telecommunication system comprising at least a first access device (first service node), a second access device (second service node) and a terminal (mobile station), in which system the first access device is configured to provide the terminal with a connection (paragraph 20, lines 1-13), the first access device is configured to allocate a tunnelling IP address for the tunnel to be formed for the data transmission of the terminal, to which tunnelling IP address the tunnel is bound (paragraph 20, lines 1-13), the first access device is configured to form a tunnel between a corresponding host and the first access device for data transmission of the terminal (paragraph 20, lines 1-13), the first access device is configured to transfer at least the tunnelling IP address to a second access device in response to a change in the connection of the terminal to be carried out by the second access device (paragraph 20, lines 1-13) the second access device is configured to form a binding between the tunnelling IP address and the network interface of the second access device (paragraph 20, lines 1-13), and the second access device is configured to update the information concerning the new binding between the network interface of the second access device and the tunnelling IP address for at least one network node in the system (storing new tunnel parameter via the second service node when the address is reassigned) (paragraph 83, line 1 – paragraph 84, line 16).

Perras fails to disclose detecting a need to change the connection of the terminal.

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In the same field of endeavor Corson clearly discloses detecting a need to change the connection of the terminal (paragraph 70, lines 25-32).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Corson into the method of Perras in order to effectively and efficiently maintain communication while a mobile device moves between cells.

Consider **claim 13**; Perras discloses an access device (service node) for a telecommunication network, wherein the access device is configured to provide a terminal (mobile station) with a connection (paragraph 20, lines 1-13) the access device is configured to allocate a tunnelling IP address for the tunnel to be formed for the data transmission of the terminal, to which tunnelling IP address the tunnel is bound (paragraph 20, lines 1-13), the access device is configured to form a tunnel between a corresponding host and an access device for data transmission of the terminal (paragraph 20, lines 1-13) and the access device is configured to send at least said tunnelling IP address to a second access device (second service node) in response to a change in the connection of the terminal to be implemented by the second access device (paragraph 20, lines 1-13).

Perras fails to disclose detecting a need to change the connection of the terminal.

In the same field of endeavor Corson clearly discloses detecting a need to change the connection of the terminal (paragraph 70, lines 25-32).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Corson into the method of Perras in order

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to effectively and efficiently maintain communication while a mobile device moves between cells.

Consider **claim 16**; Perras discloses an access device (service node) for a telecommunication network comprising means for providing a terminal (mobile station) with a connection and means for forming a tunnel between a corresponding host and an access device for data transmission of the terminal, wherein the access device is configured to receive at least a tunnelling IP address allocated for a tunnel for the data transmission of the terminal in response to a change in the connection of the terminal to be implemented by the access device (paragraph 20, lines 1-13) the access device (service node) is configured to form a binding between the tunnelling IP address and the network interface (paragraph 20, lines 1-13) and the access device is configured to update the information concerning the new binding between the network interface and the tunnelling IP address to at least one network node included in the system (storing new tunnel parameter via the second service node when the address is reassigned) (paragraph 83, line 1 – paragraph 84, line 16).

Perras fails to disclose detecting a need to change the connection of the terminal.

In the same field of endeavor Corson clearly discloses detecting a need to change the connection of the terminal (paragraph 70, lines 25-32).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Corson into the method of Perras in order to effectively and efficiently maintain communication while a mobile device moves between cells.

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Consider **claim 19**; Perras discloses a communication apparatus comprising a processor and memory, wherein the apparatus is configured to form a tunnel between a corresponding host and an apparatus for data transmission of a terminal (paragraph 20, lines 1-13), the apparatus is configured to receive at least a tunneling IP address allocated for a tunnel for the data transmission of the terminal in response to the apparatus (paragraph 20, lines 1-13), the apparatus is configured to form a binding between the tunneling IP address and the network interface (paragraph 20, lines 1-13), and the apparatus is configured to update the information concerning the new binding between the network interface and the tunneling IP address to at least one network node included in the system (paragraph 83, line 1 – paragraph 84, line 16).

Perras fails to disclose detecting a need to change the connection of the terminal.

In the same field of endeavor Corson clearly discloses detecting a need to change the connection of the terminal (paragraph 70, lines 25-32).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Corson into the method of Perras in order to effectively and efficiently maintain communication while a mobile device moves between cells.

Consider **claim 2**; Perras discloses that the tunnelling attributes, at least an IP address of the corresponding host and the tunnelling IP address allocated to the terminal in the first access device, are determined in an authentication server as a part of the authentication of the terminal before arranging the tunnel to the corresponding host, the tunnelling attributes are transferred to the first access device in response to a successful authentication, the IP address used in the data transmission of the terminal and the tunnelling IP address for the tunnel to be formed for the data

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transmission of the terminal that is used as an end point of the tunnel transferring data of the terminal are allocated in the first access device to the terminal, the tunnel determined by the tunnelling attributes is bound in the first access device to the tunnelling IP address, the tunnel, whose end points include the tunnelling IP address and the IP address of the corresponding host, is formed and thereafter the data transmission to the tunnelling IP address is transferred to a network interface of the first access device (paragraph 83, line 1 – paragraph 84, line 16).

Consider **claim 3**; Perras discloses transferring data between the terminal and the corresponding host using the binding configured to the second access device after updating (paragraph 20, lines 1-13).

Consider **claims 4, 11, 25**; Perras discloses that the network node is a router in a local network (paragraph 44, lines 1-7).

Consider **claims 8, 24**; Perras discloses that the first access device and the second access device are access points of a wireless local network connected to one another through a wired local network (paragraph 42, lines 1-7).

Consider **claim 10**; Perras discloses that the transmission of data between the terminal and the corresponding host after updating is configured in the telecommunication system using the binding configured to the second access device (paragraph 83, line 1 – paragraph 84, line 16).

Consider **claim 15**; Perras discloses that the access device is configured to change the binding of the tunnelling IP address to temporarily denote the network interface of the second access device (paragraph 20, lines 1-13).

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Consider **claims 17, 20**; Perras discloses that the access device is configured to transfer data after updating between the terminal and the corresponding host using the binding formed (paragraph 20, lines 1-13).

Claims 5-7, 12, 14, 18, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Perras (U.S. Patent Application Number: 2002/0141369)** in view of **Corson et al. (U.S. Patent Application Number: 2002/0080752)**, and further in view of **Johansson et al. (U.S. Patent Application Number: 2002/0080752)**.

Consider **claims 5, 12, 14, and 18**; Perras and Corson fail to disclose that the binding refers to binding between a MAC address of the network interface and the tunnelling IP address.

In the same field of endeavor Johansson discloses that the binding refers to binding between a MAC address of the network interface and the tunnelling IP address (paragraph 22, lines 1-21; paragraph 86, line 1-22).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Johansson into the method of Perras and Corson in order to provide a route optimization technique for mobile devices.

Consider **claim 6**; Perras and Corson fail to disclose that the information concerning the new binding is sent to at least one network node connected to the first access device and to the second access device to the routing table thereof using a Neighbour Discovery protocol.

In the same field of endeavor Johansson discloses that the information concerning the new binding is sent to at least one network node connected to the first access device and to the

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second access device to the routing table thereof using a Neighbour Discovery protocol (paragraph 79, lines 1-6).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Johansson into the method of Perras and Corson in order to provide a route optimization technique for mobile devices.

Consider **claims 7, 23**; Perras and Corson fail to disclose that the information concerning the new binding is sent to at least one network node connected to the first access device and to the second access device to an ARP table (Address Resolution Protocol) thereof using an ARP protocol.

In the same field of endeavor Johansson discloses that the information concerning the new binding is sent to at least one network node connected to the first access device and to the second access device to an ARP table (Address Resolution Protocol) thereof using an ARP protocol (paragraph 79, lines 1-6).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Johansson into the method of Perras and Corson in order to provide a route optimization technique for mobile devices.

Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Perras (U.S. Patent Application Number: 2002/0141369)** in view of **Corson et al. (U.S. Patent Application Number: 2002/0080752)**, and further in view of **Foschiano et al. (U.S. Patent Application Number: 2004/0022253)**.

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Consider **claims 21 and 22**; Perras and Corson fail to disclose that the binding refers to the binding between a MAC address of the network interface and the tunneling IP address, whereby the apparatus is configured to send the information concerning said binding using an ARP protocol or a Neighbor Discovery protocol.

In the same field of endeavor Foschiano discloses that the binding refers to the binding between a MAC address of the network interface and the tunneling IP address, whereby the apparatus is configured to send the information concerning said binding using an ARP protocol or a Neighbor Discovery protocol (paragraph 42, lines 1-10).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Foschiano into the method of Perras and Corson in order to provide a method and apparatus for inspecting the bindings created by a packet of binding protocol.

Conclusion

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

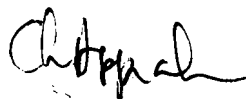
Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Joel Ajayi whose telephone number is (571) 270-1091. The Examiner can normally be reached on Monday-Thursday from 7:30am to 5:00pm and Friday 7:30am to 4:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Joel Ajayi



CHARLES N. APPIAH
SUPERVISORY PATENT EXAMINER